

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1.     **(Original)** A process for formation of a layer of tantalum pentoxide ( $\text{Ta}_2\text{O}_5$ ) on a carrier material, comprising:  
  
          heating carrier material to a heating temperature of between approximately 200°C and 400°C; and  
  
          circulating a gas mixture comprising tert-butyliminotris (diethylamino) tantalum ( $\text{t-BuN}=\text{Ta}(\text{NEt}_2)_3$ ) in contact with the heated carrier material under an oxidizing atmosphere thereby forming a layer of tantalum pentoxide ( $\text{Ta}_2\text{O}_5$ ) on the carrier material, the partial pressure of the tert-butyliminotris (diethylamino) tantalum being greater than or equal to 25 mTorr.
2.     **(Original)** The process according to Claim 1, wherein the heating temperature is between approximately 300°C and 350°C.
3.     **(Original)** The process according to Claim 1, wherein the gas mixture is circulated in a chamber in which the carrier material is placed and in that the partial pressure of the tert-butyliminotris (diethylamino) tantalum is less than the vapor pressure of tert-butyliminotris (diethylamino) tantalum corresponding to the temperature of the coldest point in the chamber.

4.     **(Original)** The process according to Claim 1, wherein the partial pressure of the tert-butylimiotris (diethylmino) tantalum is between approximately 65 mTorr and 70 mTorr.
5.     **(Original)** The process according to Claim 1, wherein the gas mixture comprises oxygen.
6.     **(Original)** The process according to Claim 1, wherein the gas mixture comprises a carrier gas, for example nitrogen.
7.     **(Currently Amended)** The process according to Claim 1, wherein the gas mixture is circulated in a chamber in which the carrier material is placed and in that the replacement time of the gas mixture in the chamber is between 0.1 second and 10 minutes. ~~minutes, for example of the order of 1 to 10 seconds.~~
8.     **(Original)** The process according to Claim 1, wherein the carrier material is a semi-conducting material, for example silicon.
9.     **(Original)** The process according to Claim 1, wherein the carrier material is a metallic material.

10. **(Currently Amended)** The process according to Claim 1, ~~[[9,]]~~ wherein the ~~metallie~~ carrier material is chosen from the group formed by titanium nitride, tantalum nitride, copper, platinum, aluminum, titanium, tantalum and ruthenium.
11. **(Original)** The process according to Claim 1, wherein the carrier material is a dielectric material.
12. **(Currently Amended)** The process according to Claim 1, ~~[[11,]]~~ wherein the ~~dielectric~~ carrier material is chosen from the group formed by silicon dioxide (SiO<sub>2</sub>), silicon nitride (Si<sub>3</sub>N<sub>4</sub>), alumina (Al<sub>2</sub>O<sub>3</sub>), ZrO<sub>2</sub> and HfO<sub>2</sub>.
13. **(Original)** The process according to Claim 1, wherein the thickness of the layer of tantalum pentoxide formed is of the order of a few tens of nanometers, for example 44 nanometers.
14. **(Original)** The process according to Claim 1, wherein the carrier material is positioned on a circular wafer having a diameter of substantially one of 200 mm and 300 mm.
15. **(Original)** The process according to Claim 1, wherein the layer of tantalum pentoxide is for incorporating in one or more electronic integrated circuits.
- 16-39. **Cancelled**

40. (New) The process according to Claim 1, wherein the gas mixture is circulated in a chamber in which the carrier material is placed and in that the replacement time of the gas mixture in the chamber is between 1 second and 10 seconds.